

# The CAD-Scan Connection

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## **COMPANY HISTORY**

The CAD-Scan Connection was founded in 1998. We have been on the cutting edge of bridging that wide gap between paper drawings and CAD (Computer-Aided Design) drawings ever since our inception. We have a depth of experience thanks to our knowledgeable and highly trained staff--and, thanks to the vast demands requested from our extensive list of clients. We service architects, civil engineers, mechanical engineers, electronic engineer, geologists, archeologists, designers, etc.. We are a certified Small Business with the Department of General Services of the State of California; we are a certified DBE and WBE; and, we are registered with the Department of Defense's Central Contractor Registration (CCR).

## **SERVICES**

The CAD-Scan Connection provides three primary types of services: LARGE FORMAT SCANNING (for digital archiving and/or on-line data sharing), PAPER-TO-CAD CONVERSION and DRAFTING.

- **LARGE FORMAT SCANNING**

Our large format scanner scans all types of media: vellums, mylar, blue prints, black/white, maps, contour maps, photos, etc.. The scanner can scan up to 1200 dpi; it has a width (throat) of 41 inches (it captures up to 37 inches) and the length can be as long as hard disk memory permits (we have scanned 12-foot long drawings). The scanned drawings can be saved as .tif uncompressed, .tif G4, bit map, jpeg, etc. and converted to .pdf. The main uses of scanning drawings are digital archives (which replace paper drawings plus regain valuable space) and provide easy access to the drawings for computer use as working files.

**Digital Archives** -- Scanning drawings has redefined the word "archives." What were once rooms of paper now can be just a few CDs! And, CDs are easy to keep in several places for safekeeping. Digital files are also simple to organize and cross-reference. (Digital archiving is one of the biggest savings in money and time.)

**Working Files** – Digitized drawings can be placed on hard drives or networks to be used as working files; or, kept at a work station as a CD for easy storage and quick access. (One CD can hold up to 700 megabytes, which could translate as over 1,000 drawings.)

The digitized files can be readily shared on-line: inter-departmentally, with other authorities, with outside agencies and companies. And, as CDs, they can be carried easily inside briefcases.

- CAD CONVERSION

Our goal is to provide the client with solutions that best interface with their CAD application. We give great attention, respect and care to old valuable drawings while, at the same time, we understand the need of fast changes and manipulation of the CAD environment. For this reason we draw from our experience and knowledge to provide a seamless transition of the two worlds. We are very attentive throughout the process, from the initial scanning phase to the digital phase to the conversion phase.

From our vastly diverse clients and projects we have learned to be very flexible and ever pushing for new and unique solutions. Below are four of our general conversion techniques.

1 - Autovectorization

Process: The whole drawing is converted into a CAD format. Editing and clean up may be required; however, it is all CAD editable.

Benefits: The final product is completely CAD friendly. Though this is often an economical CAD solution, it is best suited for those drawings that are straightforward with clear graphics, little text and without noise.

2 - Autovectorization with Text/OCR

Process: Autovectorization conversion is performed as described above (1) with a "text/OCR" command added to the set of conversion parameters. At the end of the conversion process, both the OCR'd text (with a given font value) and the converted graphics are placed on their own respective layers in CAD. Post-conversion editing may be required; however, the text, along with the graphics, is completely editable.

Benefits: The drawing has editable text available without going through the text-graphics separation process. The text recognition creates a CAD editable file, which is put on its own layer.

3 - "Hybrid" - Vectorized Graphics w/Raster Text

Process: The graphics and text are separated prior to conversion; then only the selected graphics will be converted to CAD. The remaining text data will stay as a raster image. Next, the converted graphics and the raster text will be brought into CAD, each with its own layer. This allows a perfect marriage to be made with the old and the new: the old original text will accompany the new converted graphics—both can be plotted together.

Benefits: By separating the graphics from the text, the conversion process focuses only on the graphics making the conversion more direct. The advantage of having the original text accompanying the CAD drawing is that it saves a lot of time. A text layer can always be added later. As a hybrid drawing, this solution offers an excellent compromise

#### 4 - CAD-perfect

Process: The drawing will be completely converted, both text and graphics, and all editing will be completed. Dimensioning also will be performed when applicable. All layers, fonts, scales and standards of the client will be followed. The CAD-perfect drawing can include the clients title block. The final result will be a 100% CAD-perfect drawing.

Benefits: The CAD-perfect drawing is a final product--requiring no editing. We work directly with the clients to ensure that their requirements are met.

Please note that all solutions are packaged such that the final CAD drawing will include a layer with the original digitized (raster) image of the drawing. This provides a reference and/or editing aid. All work is quality controlled and performed in-house.

- DRAFTING

The CAD-Scan Connection is fully staffed with CAD users. We specialize in AutoCAD but can adapt easily to other programs for large projects. ( Note: MicroStation V8 fully translates AutoCAD .dwgs.) Our experience gives us drafting strengths in civil engineering, architecture, mechanical engineering, urban planning, plus archeology and geology. We provide skills in CAD drafting which can assure the clients' standards to be maintained.

ALL WORK IS DONE IN-HOUSE. This is an important issue because it is the only way good quality control can be provided; as well as assuring a secured environment.

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